

XI. NEOTROPICAL BATS IN THE CARNEGIE MUSEUM.

BY COLIN CAMPBELL SANBORN.¹

The collection of unidentified South and Central American bats belonging to the Carnegie Museum was loaned to the Field Museum of Natural History for the examination of certain genera. Represented in the collection are some very rare genera and species, besides many records of distributional interest. It was, therefore, thought advisable to put these data on record in a list of the material. The specimens are mostly from Costa Rica, Colombia, and Bolivia, with a few from Venezuela and Brazil, and represent thirty genera and forty-six species and subspecies. The two hundred and eighty-eight specimens are preserved in the form of one hundred and eighty-five skins with skulls, twenty-three skins only, four skulls only, and seventy-six examples preserved in alcohol.

I wish to thank Dr. A. Avinoff, Director of the Carnegie Museum, for the privilege of studying and reporting upon this interesting collection. I am indebted to Dr. Glover M. Allen, Curator of Mammals at the Museum of Comparative Zoölogy in Cambridge, Massachusetts, and to Mr. Gerritt S. Miller, Jr., Curator of Mammals at the United States National Museum in Washington, D. C., for aid in the identification of two species. Mr. H. E. Anthony, Curator of Mammals at the American Museum of Natural History, New York, kindly loaned the type of *Dermonotus suaipurensis* Allen.

All specimens are skins with skulls, unless otherwise stated. The Carnegie Museum number is placed in parentheses. The collector's name appears at the end of each series of specimens.

ANNOTATED LIST.

Genus SACCOPTERYX Illiger.

I. *Saccopteryx bilineata* (Temminck).

Urocryptus bilineatus Temminck, Van der Hoeven's Tijdschr. Natuurlijk. Gesch., u. s. w., 5, 1838-1839, p. 33.

¹Assistant Curator of Mammals, Field Museum of Natural History, Chicago, Illinois.

COLOMBIA: (647) skin only; Bonda (645) June 1898, H. H. Smith; Mamatoco, Santa Marta (2651-2654, 2658) two males and three females, August 2, 1913, M. A. Carriker, Jr.

BRAZIL: Santarem (1904-1910) four males and three females (in alcohol) Dec. 9, 1909, J. D. Haseman.

2. **Saccopteryx leptura** (Schreber).

Vespertilio lepturus Schreber, Säugethiere, I, 1774, p. 57.

COLOMBIA: Mamatoco, Santa Marta (2650) not sexed (skin only) July 31, 1913; Fundación, Santa Marta (2682) male, Aug. 17, 1913; Dibulla, Santa Marta (3161) female (skin only) Feb. 21, 1914, M. A. Carriker, Jr.

Genus CORMURA Peters.

3. **Cormura brevirostris** (Wagner).

Emballonura brevirostris Wagner, Wiegmann's Arch. f. Naturg., ix, I, 1843, p. 367.

COSTA RICA: El Pozo de Terraba (1595-1596) two males, July 8, 1907, M. A. Carriker, Jr.

COLOMBIA: Don Diego, Santa Marta (3124) male, Jan. 26, 1914, M. A. Carriker, Jr.

These specimens appear to furnish the first records of this rare bat from Costa Rica and Colombia.

Genus DICLIDURUS Wied.

4. **Diclidurus albus** Wied.

Diclidurus albus Wied, Isis, 1819-1820, p. 1630.

BRAZIL: Rio Purus, Hyutanahan (5300) female, March 22, 1922, S. M. Klages.

The forearm of this specimen measures 64 mm.

Genus NOCTILIO Linnæus.

5. **Noctilio leporinus** (Linnæus).

Vespertilio leporinus Linnæus, Syst. Nat., Ed. 10, I, 1758, p. 32.

BOLIVIA: Santa Cruz de la Sierra (2248) male (alc.) 1909 (?) J. Steinbach.

Forearm 86.7 mm.

6. **Noctilio albiventer** Spix.

Noctilio albiventer Spix, Sim. et Vesp. Brasil., 1823, p. 58, figs. 2-3.

BRAZIL: Santarem (1912) male (alc.) Dec. 14, 1909, J. D. Haseman. Forearm 60 mm.

Genus CHILONYCTERIS Gray.

7. **Chilonycteris rubiginosa rubiginosa** Wagner.

Chilonycteris rubiginosa Wagner, Wiegmann's Arch. f. Naturg., ix, 1, 1843, p. 367.

COSTA RICA: Boruca (1610) female, July 25, 1907, M. A. Carriker, Jr.

Forearm 62.5 mm.

Genus PTERONOTUS Gray.

8. **Pteronotus suapurensis** (Allen).

Dermonotus suapurensis Allen, Bull. Am. Mus. Nat. Hist., 20, 1904, p. 229, Suapure, Venezuela.

COSTA RICA: Boruca (1613) male, July 29, 1907, M. A. Carriker, Jr.

This male, compared with the type which is a female, is a few shades darker throughout and is externally slightly larger. The skulls agree very closely in size and shape, but the mandible of the male is six millimeters longer than that of the female. This is the first specimen taken outside of Venezuela. In Dr. Allen's Venezuela series (Bull. Am. Mus. Nat. Hist., 30, 1914, p. 265), the males appeared to be a little smaller than the females.

GENUS MICRONYCTERIS Gray.

9. **Micronycteris megalotis megalotis** (Gray).

Phyllophora megalotis Gray, Ann. Mag. Nat. Hist., (1), 10, 1842, p. 257.

COLOMBIA: Bonda (662, 667) Nov. 30, 1898, Jan. 6, 1899, Mrs. H. H. Smith; Aguachicha, Magdalena (3877) male, (3878) male (skin only) July 19, 1916; El Tambor, Santander (3940) male, Nov. 26, 1916; La Colorada, Boyaca (3966) female, (3967) male (skin only) April 27, 1917; Jaraquiel, Bolivar (3603-3604) one male, one not sexed, March 3, 1916, M. A. Carriker, Jr.

Genus XENOCTENES Miller.

10. **Xenoctenes hirsutus** (Peters).

Schizostoma hirsutum Peters, Monatsb. Akad. Berlin, 1869, p. 396, no exact locality.

Micronycteris hirsutum Thomas, Ann. Mag. Nat. Hist., (7), 2, 1898, p. 318, Pozo Azul, Costa Rica.

Xenoctenes hirsutus Miller, Bull. U. S. Nat. Mus., No. 57, 1907, pp. 124-125, gen. nov.

COLOMBIA: Mamatoco, Santa Marta (2659) female, Aug. 2, 1913, M. A. Carriker, Jr.

This appears to be the fourth known specimen of this bat and the only skin and skull in good condition, the other specimens being in alcohol. It is also the first record for Colombia.

The upper parts are dull brown, the hairs of the upper back, shoulders, head, and sides of neck with light gray bases; those of the lower back and rump of uniform color to bases. The underparts are brownish-gray, a little darker on the throat.

The short tail is not well marked in the membrane. The identity of the specimen has been confirmed by Dr. G. M. Allen.

Measurements (from dried skin): total length 90 mm.; length of interfemoral membrane 26 mm.; tibia 21 mm.; foot with claw 12 mm.; calcar 9.7 mm.; forearm 42.7 mm.; pollex, metacarpal 8 mm., first phalanx 6 mm.; second digit, metacarpal 30.3 mm., first phalanx 5 mm.; third digit, metacarpal 35.4 mm., first phalanx 17 mm., second phalanx 18 mm.; fourth digit, metacarpal 36.1 mm., first phalanx 13.9 mm., second phalanx 7.5 mm.; fifth digit, metacarpal 38.5 mm., first phalanx 14.5 mm., second phalanx 11 mm. (Ear and nose-leaf dampened before measuring). Ear, from meatus 22 mm., greatest width 14.5 mm., from crown 15 mm.; height of tragus 6.4 mm., greatest width 2.3 mm.; nose-leaf, height 6.7 mm., width 4.6 mm.

Skull: total length 22.6 mm.; condylo-basal length 20.1 mm.; palatal length 9.7 mm.; zygomatic width 11.5 mm.; interorbital width 4.7 mm.; width across M^2 7.2 mm.; mastoid width 9.7 mm.; length upper tooth-row C- M^3 8.8 mm.; length lower tooth-row C- M_3 9.5 mm.; length of mandible 14.6 mm.

Genus LONCHORHINA Tomes.

11. *Lonchorhina aurita* Tomes.

Lonchorhina aurita Tomes, Proc. Zool. Soc. Lond., 1863, pp. 81-84.

BOLIVIA: San Matais (1890) male (alc.) June 8, 1909, J. D. Hase-man.

This bat has been represented previously from the West Indies (three specimens), from Panama (seven specimens), and Venezuela (three specimens). A subspecies, *L. a. occidentalis* Anthony, known from one specimen, is found in Ecuador. This specimen from Bolivia, while well south of the known range of the species, agrees with descriptions and with a skull from Venezuela. It was caught in a cave

near San Matais with four *Anoura geoffroyi* and one *Carollia perspicillata*.

A few years ago the Field Museum of Natural History received a skin and skull of this bat from Alto Parnahyba, Maranhão, Brazil, which extends the range to the east. The specimen is typical in all but one respect; the second lower premolar is crowded inward from the tooth-row so that the first and third premolars are in contact. This may be individual variation.

Genus PHYLLOSTOMUS Lacépède.

12. *Phyllostomus hastatus* (Pallas).

Vespertilio hastatum Pallas, Spicil. Zoöl., 3, 1767, p. 7.

BOLIVIA: Prov. del Sara (2755-2756) male and female; (2757) male (skin only) May 17, 1913; (2767) male (skin only) July 14, 1913; Buenavista (2729) male, Jan. 22, 1911, J. Steinbach.

13. *Phyllostomus hastatus* subsp.

COLOMBIA: Rio Atrato, Soatata (4434-4437) four females, Jan. 23, 1918; Mamatoco, Santa Marta (2665-2677) four males, eight females, and one not sexed, Aug. 3, 1913, M. A. Carriker, Jr.

14. *Phyllostomus verrucosus* Elliot.

Phyllostomus verrucosus Elliot, Proc. Biol. Soc. Wash., 18, 1905, p. 236.

COSTA RICA: Boruca (1617) female, July 29, 1907, M. A. Carriker, Jr.

Formerly known from Mexico only.

Genus TRACHOPS Gray.

15. *Trachops cirrhosus* (Spix).

Vampyrus cirrhosus Spix, Sim. et Vesp. Brasil., 1823, p. 64.

COLOMBIA: Rio Atrato, Soatata (4440) male, Jan. 23, 1918, M. A. Carriker, Jr.

Genus CHROPTERUS Peters.

16. *Chropterus auritus* (Peters).

Vampyrus auritus Peters, Abh. Akad. Wiss. Berlin, 1856, p. 415.

BOLIVIA: Prov. del Sara (2170) female, May 30, 1910; Rio Dolores, Prov. del Sara (2761-2762) male and female, Oct. 2, 1911; Surutu, Santa Cruz (4968) female (skin only) Oct. 5, 1917, J. Steinbach.

The following collector's notes on the labels are of interest: "In camp house;" "A number, six specimens, together in a hole of termite house in a palm tree."

Genus GLOSSOPHAGA Geoffroy.

17. *Glossophaga soricina* (Pallas).

Vespertilio soricinus Pallas, Misc. Zoöl., 1766, p. 48.

COLOMBIA: Jaraquiel, Bolivar (3605) male, March 3, 1916; Aguachicha, Magdalena (3879) female, July 19, 1916, M. A. Carriker, Jr.

VENEZUELA: Santa Lucia, Miranda (6042-6044) three females, Aug. 18, 1929, H. J. Clement.

BRAZIL: Pará (2780, 2782) male and female, Jan. 1914, J. Steinbach.

BOLIVIA: Santa Cruz de la Sierra (1945) female, July 21, 1909; (2229) male (alc.) 1909, J. Steinbach.

18. *Glossophaga longirostris longirostris* Miller.

Glossophaga longirostris Miller, Proc. Acad. Nat. Sci. Phil., 1898, p. 330.

COLOMBIA: Tagauga (839-840) male and female, June 22, 1899, Mrs. H. H. Smith; Mamatoco, Santa Marta (2655-2656, 2663-2664, 2679, 2681) three males, three females, Aug. 2, 3, 1913, M. A. Carriker, Jr.

19. *Glossophaga elongata* Miller.

Glossophaga elongata Miller, Proc. Biol. Soc. Wash., 13, 1900, p. 124.

CURAÇAO: Savonet (2687) female (skin only) May 12, 1911, M. A. Carriker, Jr.

Genus ANOURA Gray.

20. *Anoura geoffroyi* Gray.

Anoura geoffroyi Gray, Mag. Zoöl. Bot., 2, 1838, p. 490.

BOLIVIA: San Matias (1897-1900) three males, one female (alc.) June 8, 1909, J. D. Haseman.

This appears to be the first time this species has been recorded from Bolivia.

Genus CAROLLIA Gray.

21. *Carollia perspicillata perspicillata* (Linnæus).

Vespertilio perspicillatus Linnæus, Syst. Nat., Ed. 10, 1, 1758, p. 31.

COLOMBIA: Rio Atrato, Soatata (4424-4433) three males, seven females, Jan. 23, 1918; Mamatoco, Santa Marta (2657, 2660-2662,

2678, 2680), two males, four females, Aug. 2, 3, 1913, M. A. Carriker, Jr.; Bonda (832) female, Apr. 23, 1899, H. H. Smith.

BRAZIL: Pará (2781) female, Jan. 1914, J. Steinbach.

BOLIVIA: Prov. del Sara (2159-2160) male, female, Oct. 29, 1909; (2161-2163) three males; (2164) female (skin only) Nov. 3, 12, 1909; (2200) female, Sept. 24, 1910; (2728) not sexed (skin only) Jan. 1911; Santa Cruz de la Sierra (1955) male, Aug. 3, 1909; (2228, 2230) male, female (alc.) 1909 (?); Buenavista (2799) male (alc.) Sept. 1911; (5190) male, no date, J. Steinbach. San Matais, (1891) male (alc.) June 8, 1909, J. D. Haseman.

Genus STURNIRA Gray.

22. *Sturnira lilium* (Geoffroy).

Phyllostoma lilium Geoffroy, Ann. du Mus. 15, 1810, p. 181.

BOLIVIA: Santa Cruz de la Sierra (1944) male, July 20, 1909; (1956) female, Aug. 3, 1909; Prov. del Sara (2171, 2173) male, female, May 31, June 1, 1910; Buenavista (2796-2797) two males, Jan. and Oct., 1911, J. Steinbach.

Collector's note: "In house."

Genus URODERMA Peters.

23. *Uroderma bilobatum* Peters.

Uroderma bilobatum Peters, Monatsb. Akad. Berlin, 1866, p. 394.

COLOMBIA: Bonda (835-836) male and female, May 24, 25, 1899; Cacagualito (642-643) not sexed, May 13, 17, 1899, H. H. Smith; Minca, Santa Marta (2620) male, June 27, 1913, M. A. Carriker, Jr.

VENEZUELA: Santa Elena, Merida (5303) male, Aug. 17, 1922, M. A. Carriker, Jr.

COSTA RICA: Boruca (1632-1638) two males, five females, Aug. 12-13, 1907; Miravalles (1519) male, May 27, 1906, M. A. Carriker, Jr.

BOLIVIA: Buenavista (2730) male, April 25, 1911, J. Steinbach.

Dr. Knud Andersen described *Uroderma bilobatum thomasi* (Ann. Mag. Nat. Hist., 1906, (7), 18, p. 419), from two very large specimens from Bolivia. The one Bolivian specimen in this series is no larger than *bilobatum*. *Uroderma* appears to be a rare genus in Bolivia, if we can judge by the single specimen collected by José Steinbach. The Field Museum has never received any among the many bats he sent in.

The large *Uroderma* can be paralleled by specimens of three other genera from Bolivia with exceptionally large forearms: *Myotis nigricans* (C. M. No. 5256) forearm 41.4 mm.; *Carollia perspicillata* (C. M.

No. 2753) forearm 46.2 mm.; *Saccopteryx bilineata* (F. M. N. H. No. 21,475) forearm 50.5 mm. Only the *Carollia* has a skull and it is but slightly larger than the average.

It seems that very large individuals tend to develop in the highlands of Bolivia, and it is possible that *Uroderma b. thomasi* represents specimens of this sort. Further specimens from Bolivia are needed, however, to settle the question.

Genus VAMPYROPS Peters.

24. **Vampyrops lineatus** (Geoffroy).

Phyllostoma lineatum Geoffroy, Ann. Mus. Hist. Nat., Paris, 1810, p. 180.

BOLIVIA: Santa Cruz de la Sierra (1940-1942) three males, July, 16, 1909; Buenavista (2731-2733, 2736) three males, one female, May 6-8, 1911, J. Steinbach.

Genus ARTIBEUS Leach.

25. **Artibeus planirostris planirostris** (Spix).

Phyllostoma planirostris Spix, Sim. et Vesp. Brasil., 1823, p. 66.

VENEZUELA: El Cantado, Miranda (6039-6041) male, two females, July 26, 1929; San Rafael (6333) female, Nov. 5, 1929, H. J. Clement.

26. **Artibeus planirostris fallax** Peters.

Artibeus fallax Peters, Monatsb. Akad. Berlin, 1865, pp. 355-357.

BRAZIL: Santarem (1913) female, Dec. 19, 1909, J. D. Haseman.

27. **Artibeus jamaicensis jamaicensis** Leach.

Artibeus jamaicensis Leach, Trans. Linn. Soc. Lond. Zool., 13, pt. 1, 1821, p. 75.

COSTA RICA: Buenos Aires (1649) female, Aug. 30, 1907, M. A. Carriker, Jr.

28. **Artibeus jamaicensis lituratus** Lichtenstein.

Phyllostomus lituratus Ill., Lichtenstein, Verz. Doubl. Berlin, Mus., 1823, p. 3.

BOLIVIA: Prov. del Sara (2147, 2154-2157) male, four females; (2158) female (skin only) Oct. 29, 1909; (2167) juv. male, Apr. 14, 1910; (2235) male, May 8, 1911; Santa Cruz de la Sierra (2232-2236) male and four juvs. (alc.) 1909, J. Steinbach.

The juvenal male (2167) is in the dark, almost black pelage. Contrary to Andersen's findings in the *jamaicensis*-group, this specimen

has a small upper third molar. The second upper molar does not have the characteristic notch of *planirostris*, however, but does have the strong emargination of the hinder margin of the tooth typical of *jamaicensis*.

29. *Artibeus* sp.

COLOMBIA: Rio Atrato, Soatata (4438-4439) Jan. 23, 1916, M. A. Carriker, Jr.

Too young to classify.

30. *Artibeus watsoni* Thomas.

Artibeus watsoni Thomas, Ann. Mag. Nat. Hist. (7), 7, 1901, pp. 542-543.

COSTA RICA: Buenos Aires (1644-1646) two males, one female, Aug. 26, 1907; Boruca (1605, 1616) male and female, July 24, 30, 1907, M. A. Carriker, Jr.

31. *Artibeus anderseni* Osgood.

Artibeus anderseni Osgood, Field Mus. Nat. Hist., Zoöl. Ser. 10, No. 14, 1916, p. 212, Porto Velho, Brazil.

BOLIVIA: Buenavista (2734) female, May 6, 1911, J. Steinbach.

This specimen is a little older than the type and topotype and is slightly larger in the length of the forearm and skull. The Field Museum of Natural History has a skin without skull from the same locality in Bolivia. These two specimens represent the light and dark color-phases and their forearms measure 39.3 mm. and 39.5 mm. respectively. The one skull has a total length of 19.1 mm.; zygomatic breadth 11.7 mm.; length of palate 7.6 mm. It has five lower incisors.

Genus ENCHISTHENES Andersen.

32. *Enchisthenes harti* Thomas.

Artibeus harti Thomas, Ann. Mag. Nat. Hist., (6), 10, 1892, p. 409, Trinidad.

Enchisthenes harti Andersen, Ann. Mag. Nat. Hist., (7), 18, 1906, p. 419; Proc. Zoöl. Soc. Lond., 1908, pp. 221-224.

VENEZUELA: Petare, Merida (6035) female, July 19, 1929, J. H. Clement.

This appears to be the second specimen recorded and represents a new locality for the genus.

Color: Above "bone brown," more blackish on shoulders. Underparts slightly lighter with a blackish area on chest. Face and head

to back of ears almost black marked by two narrow "buffy brown" stripes about 12 mm. long extending from nose-leaf to back of front margin of ears.

Measurements (taken from dried skin): total length 73 mm.; forearm 40 mm. Skull: greatest length 20.1 mm.; mastoid width 10.8 mm.; width of brain-case 9.1 mm.; zygomatic width 12.4 mm.; maxillary width across M^1 8.7 mm.; width across cingula of canines 5.4 mm.; mandible to front of incisors 13 mm.; upper tooth-row C- M^3 6.8 mm.; lower tooth-row C- M_3 7.4 mm. This specimen agrees fairly well with the type as described, except in the measurements of the mandible and tooth-rows, which are much shorter.

Genus *DESMODUS* Wied.

33. *Desmodus rotundus* (Geoffroy).

Phyllostoma rotundum Geoffroy, Ann. Mus. d' Hist. Nat., 15, 1810, pp. 181-186.

COLOMBIA: Bonda (646, 647) female, and one not sexed, June, 1898 and July 25, 1899, H. H. Smith.

BOLIVIA: Prov. del Sara (2148-2153) three males, three females, Oct. 28, 1909, J. Steinbach.

Genus *THYROPTERA* Spix.

34. *Thyroptera discifera major* Miller.

Thyroptera discifera major Miller, Journ. Mamm., 12, No. 4, 1931, p. 411, San Julian, Venezuela.

COLOMBIA: Rio Negro, Boyaca (3964-3965) two females, April 2, 1927, M. A. Carriker, Jr.

The forearms of these specimens measure 37.2 and 35.4 mm. respectively which in one is a little larger and in the other is the maximum given for this measurement by Miller. The skulls appear to be a trifle longer, but are in poor condition for accurate measurements. A single skull which was associated with a *Saccopteryx b. bilineata* (647) with no data but "Colombia" (probably from Bonda), is referred to this form.

Genus *MYOTIS* Kaup.

35. *Myotis nigricans nigricans* (Wied).

V[espertilio] nigricans Wied, Beiträge Naturgesch. Bras., 2, 1826, p. 266.

COLOMBIA: Aguachica, Magdalena (3880) female, July 26, 1916, M. A. Carriker, Jr.

BOLIVIA: Incachaca, Cochabamba (5256) male, Oct. 15, 1921; Buenavista (2201) male, Sept. 10, 1910; (2804-2805) female and juv. (alc.), Dec. 1912; (2806-2808) two females, one juv. (alc.) Nov. 1913; (5186, 5194-5195) male, female, juv. (alc.) no date; Prov. del Sara (2739) male, Jan. 13, 1912; Santa Cruz de la Sierra (1933, 1943) two males, July 11, 18, 1909; (2231, 2247) two males (alc.) 1909, J. Steinbach; São Antonio de Guaporé (1893-1896) four (alc.) July 27, 1909, J. D. Haseman.

Genus *EPTESICUS* Rafinesque.

36. ***Eptesicus montosus*** Thomas.

Eptesicus montosus Thomas, Ann. Mag. Nat. Hist., (9), 5, 1920, p. 363, Choro, north of Cochabamba, Bolivia.

BOLIVIA: Prov. del Sara (2738) male, Jan. 3, 1912, J. Steinbach.

The forearm of this specimen measures 38.5 mm. This is smaller than the type, which measures 43 mm.

37. ***Eptesicus bahamensis*** (Miller).

Vespertilio fuscus bahamensis Miller, N. A. Fauna No. 13, 1897, p. 101.

BAHAMAS: Ft. Charlotte, Nassau, New Providence (1856-1874), eighteen in alcohol, Jan. 7, 1909, W. W. Worthington.

Genus *DASYPTERUS* Peters.

38. ***Dasypterus ega*** subsp.

BOLIVIA: Prov. del Sara (2727) female (skin only) Dec. 6, 1910; (2743) juv. (skin only) Feb. 22, 1912; Buenavista (2798) female (alc.) Oct., 1911, J. Steinbach.

Available material is not sufficient to identify these specimens.

Genus *RHOGEËSSA* H. Allen.

39. ***Rhogeëssa tumida*** H. Allen.

R [hogeëssa] tumida H. Allen, Proc. Acad. Nat. Sci. Phil., 1866, p. 286.

COSTA RICA: Miravalles (1250) female, May 22, 1906, M. A. Carriker, Jr.

Genus *MOLOSSOPS* Peters.

40. ***Molossops brachymeles*** Peters.

Molossus (Molossops) brachymeles Peters, Monatsbr. Akad. Berlin, 1865, p. 575. Peru.

M [olossops] brachymeles Thomas, Ann. Mag. Nat. Hist., (8), 7, 1911, p. 114.

BOLIVIA: Villa Bella (1892) male (alc.) Oct. 6, 1909, J. D. Haseman.

The forearm of this specimen measures 43.5 mm. which is about half way between the measurements of *M. brachymeles* Peters of Peru (forearm 42) and *M. cerastes* Thomas (Ann. Mag. Nat. Hist., (7), 8, 1901, p. 440) of Paraguay and Southern Brazil (forearm 44-46). It seems possible that more specimens will show *cerastes* to be a synonym of *brachymeles*. The head is so crushed that only fragments of the skull could be removed and no measurements were taken.

The external measurements are: total length 117 mm.; tail 41 mm.; forearm 43.5 mm.; pollex with claw 7.7 mm.; metacarpal, second digit 40.5 mm.; metacarpal, third digit 40.5 mm., first phalanx 21.8 mm., second phalanx 18 mm.; metacarpal fourth digit 42.9 mm., first phalanx 17.5 mm.; metacarpal fifth digit 27.9 mm., first phalanx 11 mm., second phalanx 3.8 mm. Tibia 16 mm.; foot with claw 10.6 mm.

Genus TADARIDA Rafinesque.

41. *Tadarida brasiliensis* (Geoffroy).

Nyctinomys brasiliensis Geoffroy, Ann. Sci. Nat., Paris, 1, 1824, p. 337.

BOLIVIA: Yungas de Cochabamba (5278) male; (5279-5280) two males (skins only) May 13, 15, and 19, 1921, J. Steinbach.

PARAGUAY: Asunción (1915) male (alc.) March 23, 1909, J. D. Haseman.

42. *Tadarida macrotis* (Gray).

Nyctinomus macrotis Gray, Ann. Nat. Hist., 4, 1839, p. 5-6.

COLOMBIA: Tagauga (842, 844) male and female, June 23, 1899, H. H. Smith.

Genus EUMOPS Miller.

43. *Eumops abrasus milleri* (Allen).

Promops milleri Allen, Bull. Am. Mus. Nat. Hist., 13, 1900, p. 92.

COLOMBIA: Don Diego, Santa Marta (3091-3097, 3108-3111, 3098 skin only), five males, seven females, Jan. 15-19, 1914, M. A. Carriker, Jr.

Genus *MOLOSSUS* Geoffroy.

44. *Molossus pretiosus* Miller.

Molossus pretiosus Miller, Proc. Acad. Nat. Sci. Phil., 1902, p. 396.

VENEZUELA: Santa Lucia, Miranda (6045) female, Aug. 18, 1929, H. J. Clement.

45. *Molossus sinaloæ* Allen.

Molossus sinaloæ Allen, Bull. Am. Mus. Nat. Hist., 22, 1906, p. 236.

COSTA RICA: Boruca (1620-1625) male, three females, two juv., July 31, 1907, M. A. Carriker, Jr.

46. *Molossus obscurus* Geoffroy.

Molossus obscurus Geoffroy, Ann. Mus. Hist. Nat., Paris, 6, 1805, p. 155.

Molossus obscurus currentium Thomas, Ann. Mag. Nat. Hist., (7), 8, 1901, p. 438, Goya, Argentina.

BRAZIL: Santarem (1911) female (alc.) Dec. 14, 1909, J. D. Hase-man.

BOLIVIA: Buenavista, Prov. del Sara (2195-2198) four females, Sept. 22, 1910; (2801-2803) male and three females (alc.) Dec. 1912; (5185, 5187-5189, 5191-5193) two males and five females (alc.) no date; Prov. del Sara (2178) male, July 25, 1910, (2742) female (skin only) Jan. 21, 1912; Rio Dolores, Prov. del Sara (2760) male, Sept. 30, 1911, J. Steinbach.

The forearms in this series measure from 39 mm. to 42.7 mm. and the total length of the skulls from 16.5 to 18.2, covering the range in size between *obscurus* and *currentium*. Dr. G. M. Allen (Bull. M. C. Z. 52, 1908, p. 59) considered *currentium* a synonym of *obscurus*, but Miller (Proc. U. S. Nat. Mus., 46, 1913, p. 89) later recognized the species. In view of the great variation in this Bolivian series I feel that *currentium* must be regarded as a synonym of *obscurus*.

47. *Molossus crassicaudatus* Geoffroy.

Molossus crassicaudatus Geoffroy, Ann. Mus. Nat. Hist., Paris, 6, 1805, p. 156.

COLOMBIA: Jaraquiel, Bolivar (3606-3607) male and female, March 3, 1916; El Tambor, Santander (3945) female, Dec. 13, 1916, M. A. Carriker, Jr.

VENEZUELA: Petare, Miranda (6036-6038) three males, July 22, 25, 1929, H. J. Clement.